



دانشگاه علوم پزشکی و خدمات بهداشتی درمانی قزوین

دانشکده دندانپزشکی

پایان نامه

جهت اخذ دکترای دندانپزشکی

عنوان

تعیین ارتباط بین سن تقویمی بیمار و نسبت مساحت پالپ به دندان در دندان
های کانین ماگزیلا و مندیبل از روی رادیوگرافی پانورامیک

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شماره پایان نامه : ۸۲۶

سال تحصیلی : ۱۳۹۵-۱۳۹۶



Qazvin University of Medical Science
School of Dentistry

A Thesis
for doctorate Degree in Dentistry

Title

***The correlation between chronological age and pulp/tooth area
ratio in maxillary and mandibular Canines by panoramic
radiographs***

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Thesis No: 826

Year: 95-96

INTRODUCTION:The deposition of secondary dentin on the pulp cavity in the wake of aging,cause to decrease pulp area and pulp width.This change could be the basis for age estimation in forensic medicine.In panoramic radiographs,the pulp/tooth area ratio and pulp/root width ratio can be measured use to estimate the age.This method is a non invasive way to estimate the age that makes it possible to use it in living people.

OBJECTIVE:The aim of this study is to investigate the relationship between chronological age and the pulp/tooth area ratio of upperand lower canine teeth from panoramic radiography.

METHODS:162 digital panoramic radiographs of 105 females and 57 males aged 15 to 45 years old with canine teeth free from any problem were selected.Pulp/tooth area ratio and pulp/root width ratio in two points in any canine was calculated by AUTOCAD 2016 software.Data were entered into the statistical SPSS21 and using linear regression anaysis to examin the relationship between chronological age and PTR and PrWR.

RESULT:PTR and PrWRB in maxillary and mandibular canines with aging had significant and reverese relationship,but they are not associated with the PrWRA.The gender had no effect on the outcome of the study.Among the ratios examined in the study,only PTR constantly linked with different age groups and PrWRA and PrWRB does not show constant communication.In the age group over 35 years,none of the reviewed in both upper and lower canines were associated with chronological age.

CONCLUSION:The best age group for age estimation with this method was the age group under 35 years and the best teeth was maxillary canine.Among the studied ratios,PTRhad the highest correation with chronological age.

KEY WORDS:age estimation,forensic medicine,digital panoramic radiography,AUTOCAD